New Types of Interactions between Solitons of the (2+1)-Dimensional Broer-Kaup-Kupershmidt Equation

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By means of the extended homogeneous balance method and the variable separation approach, more general variable separation solutions of the (2+1)-dimensional Broer-Kaup-Kupershmidt equation are obtained. Based on the variable separation solution and by selecting appropriate functions, new types of interactions between the multi-valued and the single-valued solitons, such as compacton-like semi-foldon and compacton, peakon-like semi-foldon and peakon, and bell-like semi-foldon and dromion, are investigated. Meanwhile, we also discuss the phase shift of these interactions. — PACS: 02.30.Jr, 02.30.Ik